We claim:

1. A process for producing sodium acrylate polymer by free-radical polymerization of sodium acrylate with or without other monomers in an aqueous medium, which comprises using sodium acrylate in the form of an aqueous solution or dispersion obtainable by dissolving or dispersing solid sodium acrylate in an aqueous medium.

2. A process as claimed in claim 1, wherein the aqueous solution of sodium acrylate used contains from 10 to 100 mol% of sodium acrylate and from 0 to 90 mol% of acrylic acid.

3. A process as claimed in claim 1 or 2, wherein the aqueous solution of sodium acrylate used contains from 10 to 95 mol% of sodium acrylate and from 5 to 90 mol% of acrylic acid.

4. A process as claimed in claim 1 or 2, wherein the aqueous solution of sodium acrylate used contains from 40 to 90 mol% of sodium acrylate and from 10 to 60 mol% of acrylic acid.

5. A process as claimed in any of claims 1 to 4, wherein the aqueous solution contains from 0.01 to 5 mol% of a monomer containing at least two ethylenically unsaturated double bonds.

6. A process as claimed in any of claims 1 to 5, wherein the aqueous monomer solution is prepared using solid anhydrous sodium acrylate.

7. A process as claimed in any of claims 1 to 6, wherein the solid sodium acrylate used has a water content from 0.1% to 10% by weight.

8. Sodium acrylate polymer obtainable by the process of claims 1 to 7.

9. The use of solid sodium acrylate for producing polymers by dissolving the solid sodium acrylate in water to form an aqueous monomer solution and polymerizing the monomer solution in the presence or absence of other monomers.

10. A process according to any of claims 1 to 9, wherein the solid sodium acrylate is wholly or partly replaced by another water-soluble salt of acrylic acid.